

What is claimed is:

1. A pressure activated valve for medical applications comprising:
 - a housing having a lumen extending therethrough from a proximal end to a distal end thereof; and
 - a flow control membrane extending across the lumen to control flow therethrough, the flow control membrane including a mounting portion at which the flow control membrane is coupled to the housing and a lumen occluding portion having a slit extending therethrough so that, when the lumen occluding portion is subjected to a pressure of at least a predetermined threshold level, the lumen occluding portion moves from a closed configuration in which flow through the lumen is prevented to an open configuration in which flow is permitted and wherein a thickness of the mounting portion is greater than a thickness of the lumen occluding portion.
2. The pressure activated valve according to claim 1, wherein the flow control membrane comprises a first membrane bonded to an annular base member wherein an area of the base member substantially corresponds to that of the mounting portion and wherein the slit extends through the first membrane.
3. The pressure activated valve according to claim 1, further comprising a membrane retention portion of the housing, the membrane retention portion being adapted to apply a retentive compression force to mounting portion.
4. The pressure activated valve according to claim 2, further comprising a layer of adhesive disposed between the first membrane and the base membrane.

5. The pressure activated valve according to claim 2, wherein the first membrane has a thickness of no more than 0.035 in.
6. The pressure activated valve according to claim 1, wherein a thickness of the lumen occluding portion is between 0.005 and 0.100 inches.
7. The pressure activated valve according to claim 1, wherein a thickness of the mounting portion is between 1 and 20 times a thickness of the lumen occluding portion.
8. A method of forming a membrane for a pressure activated valve, comprising:

forming a substantially planar flow control membrane dimensioned to fit in a housing of the pressure activated valve, wherein a mounting portion of the flow control membrane is adapted to engage the housing;

forming at least one slit in the flow control membrane, the slit being openable by pressure of a fluid in the pressure activated valve of at least a predetermined threshold level;

forming an annular base membrane dimensioned to substantially overlie the mounting portion of the flow control membrane; and

stacking the base membrane on the mounting portion of the flow control membrane.

9. The method according to claim 8, further comprising bonding the base membrane to the flow control membrane.

10. The method according to claim 8, further comprising forming the base membrane with outer dimensions substantially equal to outer dimensions of the flow control membrane.
11. The method according to claim 8, further comprising disposing a layer of adhesive between the base membrane and the flow control membrane.
12. The method according to claim 8, further comprising stamping out a center of a substantially planar membrane to form the annular base membrane.
13. The method according to claim 10, wherein the substantially planar membrane is formed of the same material as the flow control membrane and has a thickness substantially equal to that of the flow control membrane.
14. The method according to claim 8, wherein the flow control membrane is formed with a thickness of less than about 0.035 in.
15. The method according to claim 8, wherein the base membrane and the flow control membrane are polymeric membranes.
16. A flow control device for a pressure activated valve, comprising:

a first membrane adapted to selectively impede flow of a fluid through the pressure activated valve;

an openable portion of the first membrane constructed so that, when subjected to a pressure of at least a predetermined threshold level, the openable portion moves to an open configuration and, when subject to a pressure less

than the threshold pressure, the openable portion is maintained in a closed configuration preventing flow through the pressure activated valve;

a seating portion of the first membrane sized and positioned to engage a membrane seat of the pressure activated valve; and

a base membrane substantially overlying the seating portion of the first membrane.

17. The flow control device according to claim 16, wherein the openable portion defines a slit extending through the first membrane, and wherein opposing edges of the slit separate in the open configuration of the openable portion, and abut one another in the closed configuration.
18. The flow control device according to claim 16, wherein the base membrane is bonded to the seating portion of the first membrane.
19. The flow control device according to claim 16, further comprising a layer of adhesive disposed between the base membrane and the first membrane.
20. The flow control device according to claim 16, wherein a thickness of the base membrane is substantially the same as a thickness of the first membrane.
21. The flow control device according to claim 16, wherein the base membrane and the first membrane are formed of a polymeric material.
22. The flow control device according to claim 21, wherein the polymeric material includes silicone.

23. The flow control device according to claim 16, wherein the base membrane is an annular membrane having a stamped out center portion.
24. The flow control device according to claim 17, wherein the first membrane is a resilient membrane adapted to urge the edges toward each other.
25. The flow control device according to claim 16, wherein the first membrane and the base membrane are stacked on one another.
26. The flow control device according to claim 25, wherein the stacked first membrane and the base membrane are retained in position relative to one another by compression against the membrane seat.
27. The flow control device according to claim 16, wherein the base membrane is an annular membrane with an outer periphery of dimensions substantially equal to those of the first membrane.
28. The flow control device according to claim 16, wherein the first membrane has a thickness of no more than about 0.035 in.